

ПРОБЛЕМЫ ПОВЫШЕНИЯ КАЧЕСТВА ПОДГОТОВКИ  
СПЕЦИАЛИСТОВ, ФОРМИРОВАНИЕ НАЦИОНАЛЬНЫХ РАМОК  
КВАЛИФИКАЦИЙ

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**SCIENTIFIC DISCOURSE AND FIGURATIVE LANGUAGE  
USAGES**

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**Abstract.** The paper explores the field of cognitive discourse analysis. Basically, it addresses the epistemic approach to scientific discourse. The epistemic analysis specifies the concept of cognition as an activity directly connected with language. Special attention is given to figurative language functional usages.

*Key words:* scientific discourse, cognition, figurative language, metaphor, mental space, blending, synergetics.

Discourse is accepted to be a linguistic correlative of a given social and cultural practice. Epistemic situation as an objective extralinguistic factor of the scientific discourse and as a universal metamodel of the scientific text reflects a complex of interrelated extralinguistic factors systematically influencing text generation and its linguistic specificity.

Scientific knowledge conveyed by texts is examined in unity with subject-object relationships residing in cognitive-discursive activity which is realized in the metamodel of epistemic situation embedding both cogniocentric (ontological and methodological) aspects and anthropocentric (reflective and communicative) aspects.

Textual tissue is studied in direct connection with, first, mental and communicative typological conditions of text generation, second, the system of cognitive and pragmatic strategies, third, the author's operational aims plus a complex of extralinguistic factors influencing linguistic means used. That implies the exploration of interaction features between social actors that rely on the dynamics of relationships between people and how those relationships are reflected in the language choices that they make, and the mechanisms by which figurative uses of form create meaning for readers. The main reason that figurative language usages appear to be pervasive in all languages is apparently that they reflect patterns of human cognition.

Any structural element of the given model reflects the appropriate communicative information and can combine simultaneously several functions. Its linear level doesn't always coincide with the non-linear one where the secondary rhetorical system starts opening up into social, affective, ideological world. The non-linearity of a natural language becomes apparent in the changes

under the influence of almost innumerable quantity of interacting factors of social, psychophysiological and psychophysical nature.

Spontaneous activity of a discourse product manifests itself not only in its capability of self-structuring but also in structuring and modifying its environment – conceptual system of both its producer and its recipient. This allows to raise a number of issues related to the possibility of information interchange between related and non-related objects. What is needed is the investigation of textual, discursive, mental and other objects and structures contributing to an effective interchange of information, energy, substance between related (discourse product – its producer) and non-related (discourse product – its recipient) synergetic systems.

The text and its environment are in complementariness relation. For being used by the recipient to structure his own conceptual system the text should be subject to a sequence of modifications in the conceptual system. Such modifications can be caused by the material structure of the text as the stages of semantic environment generation reflecting the author's meaning development are represented by signs bodies.

A complex correlation of stable and unstable states of a generated text leads to the appearance of its interpretation field where a new system of meaning initiated by the original one but not equal to the collection of its meanings is formed. Principles of transferring from one state of the system to the other are set by a system of text attractors i.e., dominant meaning synchronizing symmetric and asymmetric text components. It can be the case of figurative cognition and language which are pervasive not only in literature, but in scientific discourse as well. Frequently this discourse has its own domain-specific and genre-specific figurative usages.

Differences are in the register purpose and formality of the genres studied. However, what is essential is the investigation of different texts with an invariant cognitive core to elucidate their general cognitive and structural schemes as well as conceptual dominants and typical language means (strict theoretical science, instructional science, popular science).

Clearly, strict theoretical science discourse contains logical, objective, factual information, and represents the denotative aspect of meaning by means of concrete general scientific vocabulary and terminological units. Its functional type is informative, the main function being denotative (or referential).

Instructional and popular science texts contain mixed kinds of information where cognitive content can be supplemented by emotional and aesthetic one. Supplementary information corresponds to the connotative aspect of meaning. Verbal representation is characterized by the expressivity of language means i.e., figurative vocabulary: metaphorical expressions, single metaphors, intertext. Generally, their functional type is the same but along with the denotative (or referential) the emotive and aesthetic functions are revealed: relational meaning is added to informational content.

Text's narration style can be changed by using lexical units traditionally belonging to another discourse, for instance – *the prediction has had a good innings; not bad going for what was originally just an off-the-cuff observation; if the law continues on its merry way* – an attempt of fictional representation of the problem of further decrease in size of transistors, and whether Dr Moore's prediction can remain true a little longer (Science and technology section of The Economist August 20<sup>th</sup> 2011). Changes in text's stylistic orientation entail the changes in the chaos and order balance. Integrating prototypical inherent elements of one discourse into another is predetermined by the appropriate communicative and pragmatic purpose. The interaction of genres in webs of intertextuality (or interdiscursivity) where a text is shaped by borrowing generic or rhetorical conventions from another genre serves to achieve the needed purpose. Scientific discourse has its own domain-specific and genre-specific figurative usage. Figurative language usages clearly do not serve the same purpose as their literal "translation" - they are there for a reason and achieve goals for the author to shape readers' viewpoints.

The use of expressive means "strange" for the given discourse has an effect of unexpectedness where they act as intellectual processes catalyst. The role of language is to guide conceptualization by prompting cognitive spaces and frames, rather than simply to represent it. While perceiving the metaphorical content the creativity of thinking increases due to the necessity of strengthening its integrative function to discover components of implicit dominant meaning which are unconscious but exist in each metaphoric field. This integrative function manifests itself in the creation of analogies as a basis of metaphorisation while the analogy is one of the types of the unconscious generalization. In terms of synergetics, that is the search for a creative attractor which quite strictly arranges meaning elements appearing in its action field. In the process of metaphorisation personal meaning topical for the individual can become an attractor. Figurative cognitive and linguistic structures are largely viewpointed which consists in bringing someone else around your viewpoint on a situation.

Applying insights gained from cognitive metaphor theory let us emphasize that mental process of establishing analogies switches to different systems of meanings, and is limited only by the content of the individual's conceptual system. Metaphors activate the mental process of establishing analogies by connecting to a system of meaning from another (closer to the recipient) discourse, and represent it by appropriate verbal components. For instance, the author of the article devoted to polyploidy (spare chromosomes in cells) and evolution of plants (Science and technology section of The Economist June 28<sup>th</sup> 2014) describes the phenomenon using a source-domain image of a kingdom (*in the vegetable kingdom, more sets of chromosomes are often better*) and further extends it by the introductory sentence of the article – *An heir and a spare are reckoned a desirable outcome of a royal wedding* – serving reader's

meaning construction and new mental construct emerging. An emergent conceptual construal, resulting from integration of above mentioned cognitive structures prompted by language sets an open dynamic scheme of cognitive process of interpretation. Linguistic forms connect the recipient to multiple mental spaces and webs existing in producer and recipient's cognitive systems and trigger various successive and parallel linking operations providing the degree of specificity appropriate to the intended content. Figurative language is shaping cognitive construals in discourse, it is typically shaping viewpoint on the relevant content as well. In the course of human's discursive activity mental spaces are blended in different ways to yield emergent structures and create new integrated fields. Thus, it is noteworthy that language is able to link central and afocal conceptual structures. At any moment of speaking we operate in one of the spaces but the others are present quasi invisibly in our mind. Various associations and connotations may be activated, and this ability appears to be one of the properties of verbal communication reflecting the process of text integration in the environment, i.e. the individual's conceptual system.

The above discussed issues may help master students in better understanding scientific discourse patterns as well as in generating their own ones. The most valuable is the opportunity of integrating scientific discourse interpretation foundations in the master students training curriculum.

Список литературы:

1. Баженова Е.А. Научный текст в аспекте политекстуальности. Пермь: Изд-во Перм. ун-та, 2001.
2. Герман И.А. Лингвосинергетика: Монография. Барнаул: Изд-во Алтайской академии экономики и права. – 2000.
3. Чернявская В.Е. Интерпретация научного текста: Учебное пособие. – М.: КомКнига, 2005.
4. Якобсон Р. Лингвистика и поэтика // Структурализм "за" и "против". М.: Прогресс, 1975.
5. Dancygier B. Figurative language / Dancygier B., Sweetser E./ Cambridge University Press. – 2014.
6. Fauconnier G. The way we think: conceptual blending and the mind's hidden complexities / Fauconnier G., Turner M./ Basic Books, A Member of the Perseus Books Group. – 2002.